

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A computer-implemented method for interpreting a knowledge item, comprising:

receiving data identifying a knowledge item;

identifying first information to be used in selecting a meaning for the knowledge item, where the first information is one or more documents related to a use of identified as having a predefined relationship with the knowledge item;

determining, in a computer system comprising one or more servers, one or more first information at least one meanings of the first information by selecting one or more meanings from meanings matching the first information in using a computer-readable data collection that includes terms and associates at least one meaning associated with each of the terms;

determining, in the computer system, a plurality of candidate knowledge item meanings of the knowledge item by selecting a plurality of meanings from meanings matching the knowledge item to at least one of the terms in the computer-readable data collection;

determining, in the computer system, a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and determining a respective selection probability for each candidate knowledge item meaning from the strengths; and

selecting and storing a first candidate knowledge item meaning from at least one of the plurality of candidate knowledge item meanings of the knowledge item using the at least one meaning of the first information; and

recording the selected at least one of the plurality of meanings of the knowledge item as an interpretation of the knowledge item as an interpretation of the knowledge item according to the respective selection probability associated with each candidate knowledge item meaning.

2. (Previously presented) The method of claim 1, wherein the knowledge item is a keyword received as input to a search engine.
3. (Cancelled)
4. (Currently amended) The method of claim 1~~[[3]]~~, wherein the ~~articles~~ first information comprises an advertisement from an advertiser who has bid on the knowledge item.
5. (Currently amended) The method of claim 4, wherein the ~~articles~~ first information further comprises a destination web page associated with the advertisement.
6. (Previously presented) The method of claim 5, wherein the first information further comprises related data.
7. (Original) The method of claim 6, wherein the related data comprises cost per click data associated with the advertisement.
8. (Cancelled)
9. (Currently amended) The method of claim 1, wherein the plurality of candidate knowledge item meanings ~~correspond to a plurality of~~ are each represented as an associated concepts-concept and wherein selecting the first candidate knowledge item meaning comprises selecting at least one of the associated concepts.
10. (Currently amended) The method of claim 1~~[[9]]~~, further comprising:
 - establishing an initial probability, for each of the plurality of candidate knowledge item meanings, that the knowledge item be resolved to the one of the plurality of candidate knowledge item meanings;
 - ~~—determining a strength of relationship between~~ ~~[[1)]]]~~ ~~each of the plurality of meanings~~ ~~and~~ ~~(2) the at least one meaning of the first information; and~~ ~~adjusting the probability for each of the plurality of meanings based on the strengths, wherein the adjusted probability is used in selecting the at least one of the plurality of meanings~~
 - wherein the selection probabilities are further based on the initial probabilities.

11. (Currently amended) The method of claim 1, wherein the first candidate knowledge item ~~meaning plurality of meanings~~ comprises a weighted vector of concepts.

12. (Currently amended) The method of claim 1, wherein the first candidate knowledge item ~~meaning plurality of meanings~~ comprises a related elusters ~~cluster~~ of words.

13. (Cancelled)

14. (Currently amended) A computer-readable medium ~~containing program code~~ encoded with a computer program, the program comprising instructions to perform operations for interpreting a knowledge item, the operations comprising:

~~program code~~ for receiving data identifying a knowledge item;

~~program code~~ for identifying first information to be used in selecting a meaning for the knowledge item, where the first information is one or more documents related to a use of ~~identified as having a predefined relationship with~~ the knowledge item;

~~program code~~ for determining at least one or more first information meanings of the first information by selecting one or more meanings from meanings matching the first information in ~~using~~ a computer-readable data collection that includes terms and associates at least one meaning associated with each of the terms;

~~program code~~ for determining a plurality of candidate knowledge item meanings of the knowledge item by selecting a plurality of meanings from meanings matching the knowledge item to at least one of the terms in the computer-readable data collection;

determining a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and determining a respective selection probability for each candidate knowledge item meaning from the strengths; and

~~program code~~ for selecting and storing a first candidate knowledge item meaning from at least one of the plurality of candidate knowledge item meanings of the knowledge item using the at least one meaning of the first information; and

~~program code~~ for recording the selected at least one of the plurality of meanings of the knowledge item as an interpretation of the knowledge item

item according to the respective selection probability associated with each candidate knowledge item meaning.

15. (Previously presented) The computer-readable medium of claim 14, wherein the knowledge item is a keyword received as input to a search engine.

16. (Cancelled)

17. (Currently amended) The computer-readable medium of claim ~~[[16]]~~14, wherein the ~~articles~~ first information comprises an advertisement from an advertiser who has bid on the knowledge item.

18. (Currently amended) The computer-readable medium of claim 17, wherein the ~~articles~~ first information further comprises a destination web page associated with the advertisement.

19. (Currently amended) The computer-readable medium of claim 18, wherein the first information further comprises related data.

20. (Original) The computer-readable medium of claim 19, wherein the related data comprises cost per click data associated with the advertisement.

21. (Cancelled)

22. (Currently amended) The computer-readable medium of claim 14, wherein the plurality of candidate knowledge item meanings ~~are each represented as an correspond to a plurality of~~ associated ~~concept~~ concepts and ~~program code for wherein~~ selecting the first candidate knowledge item meaning ~~at least one of the plurality of meanings~~ comprises ~~program code for~~ selecting at least one of the associated concepts.

23. (Currently amended) The computer-readable medium of claim ~~[[22]]~~14, further operable to cause processors to perform operations comprising:

~~program code for~~ establishing an initial probability, for each of the plurality of candidate knowledge item meanings, that the knowledge item be resolved to the one of the plurality of

candidate knowledge item meanings;

~~_____ program code for determining a strength of relationship between (1) each of the plurality of meanings and (2) the at least one meaning of the first information; and~~

~~_____ program code for adjusting the probability, for each of the plurality of meanings, based on the strengths, wherein the adjusted probability is used in selecting the at least one of the plurality of meanings wherein the selection probabilities are further based on the initial probabilities.~~

24. (Currently amended) The computer-readable medium of claim 14, wherein the plurality of candidate knowledge item meanings comprises a weighted vector of concepts.

25. (Currently amended) The computer-readable medium of claim 14, wherein the plurality of candidate knowledge item meanings comprises related clusters of words.

26. (Cancelled)

27. (Currently amended) A computer-implemented method for outputting advertisements related to web page content, comprising:

receiving a keyword;

identifying first information to be used in selecting a meaning for the keyword, where the first information is related to a use of the keyword identified as having a predefined relationship with the keyword;

determining, in a computer system comprising one or more servers, at least one or more first information meanings of the first information by selecting one or more meanings from meanings matching the first information in using a computer-readable data collection that includes terms and associates at least one meaning associated with each of the terms;

_____ determining, in the computer system, a plurality of candidate keyword meanings of the keyword by selecting a plurality of meanings from meanings matching the knowledge item in the computer-readable data collection;

_____ determining, in the computer system, a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and

determining a respective selection probability for each candidate keyword meaning from the strengths;

selecting a first candidate keyword meaning from the at least one of a plurality of candidate keyword meanings of the keyword according to the respective selection probabilities of each candidate keyword meaning; using the at least one meaning of the first information;

matching the keyword to web page content associated with a web page;

determining a semantic sub-space defined by a radius of semantic distance from the first candidate keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to [[an]] the advertisement-based at least in part on the selected at least one meaning;

associating, in the computer system, selecting the advertisement to associate with the web page content; and

outputting the selected advertisement when the web page is displayed.

28. (Previously presented) The method of claim 27, wherein the first information comprises text of advertisements associated with advertisers who have bid on the keyword.

29. (Currently amended) The method of claim 28, wherein the first information further comprises destination web pages associated with the advertisements.

30. (Currently amended) The method of claim 28, wherein the first information further comprises other keywords bid on by the advertisers.

31. (Previously presented) The method of claim 27, wherein the first information comprises search results associated with the keyword.

32. (New) A system comprising one or more computers programmed to perform operations comprising:

receiving data identifying a knowledge item;

identifying first information to be used in selecting a meaning for the knowledge item, where the first information is one or more documents related to a use of the knowledge item;

determining one or more first information meanings of the first information by selecting

one or more meanings from meanings matching the first information in a computer-readable data collection that includes terms and associates at least one meaning with each of the terms;

determining a plurality of candidate knowledge item meanings of the knowledge item by selecting a plurality of meanings from meanings matching the knowledge item in the computer-readable data collection;

determining a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and determining a respective selection probability for each candidate knowledge item meaning from the strengths; and

selecting and storing a first candidate knowledge item meaning from the plurality of candidate knowledge item meanings as an interpretation of the knowledge item according to the respective selection probability associated with each candidate knowledge item meaning.

33. (New) The system of claim 32, wherein the knowledge item is a keyword received as input to a search engine.

34. (New) The system of claim 32, wherein the first information comprises an advertisement from an advertiser who has bid on the knowledge item.

35. (New) The system of claim 34, wherein the first information further comprises a destination web page associated with the advertisement.

36. (New) The system of claim 35, wherein the first information further comprises related data.

37. (New) The system of claim 36, wherein the related data comprises cost per click data associated with the advertisement.

38. (New) The system of claim 32, wherein the plurality of candidate knowledge item meanings are represented as an associated concept and wherein selecting the first candidate knowledge item meaning comprises selecting at least one of the associated concepts.

39. (New) The system of claim 32, further programmed to perform operations comprising:
establishing an initial probability, for each of the plurality of candidate knowledge item meanings, that the knowledge item be resolved to the one of the plurality of candidate knowledge item meanings;

wherein the selection probabilities are further based on the initial probabilities.

40. (New) The system of claim 32, wherein the first candidate knowledge item meaning is represented as a weighted vector of concepts.

41. (New) The system of claim 32, wherein the first candidate knowledge item meaning is represented as a related cluster of words.

42. (New) A computer-readable medium encoded with a computer program, the program comprising instructions to perform operations for interpreting a knowledge item, the operations comprising:

receiving a keyword;

identifying first information to be used in selecting a meaning for the keyword, where the first information is related to a use of the keyword;

determining one or more first information meanings of the first information by selecting one or more meanings from meanings matching the first information in a computer-readable data collection that includes terms and associates at least one meaning with each term;

determining, in the computer system, a plurality of candidate keyword meanings of the keyword by selecting a plurality of meanings from meanings matching the keyword in the computer-readable data collection;

determining, in the computer system, a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and determining a respective selection probability for each candidate keyword meaning from the strengths;

selecting a first candidate keyword meaning from the plurality of candidate keyword meanings according to the respective selection probabilities of each candidate keyword meaning;

matching the keyword to web page content associated with a web page;

determining a semantic sub-space defined by a radius of semantic distance from the first candidate keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to the advertisement;
associating, in the computer system, the advertisement with the web page content; and
outputting the advertisement when the web page is displayed.

43. (New) The computer-readable medium of claim 42, wherein the first information comprises text of advertisements associated with advertisers who have bid on the keyword.

44. (New) The computer readable medium of claim 43, wherein the first information comprises destination web pages associated with the advertisements.

45. (New) The computer readable medium of claim 43, wherein the first information further comprises other keywords bid on by the advertisers.

46. (New) The computer readable medium of claim 42, wherein the first information further comprises search results associated with the keyword.

47. (New) A system comprising one or more computers programmed to perform operations comprising:

receiving a keyword;

identifying first information to be used in selecting a meaning for the keyword, where the first information is related to a use of the keyword;

determining one or more first information meanings of the first information by selecting one or more meanings from meanings matching the first information in a computer-readable data collection that includes terms and associates at least one meaning with each term;

determining, in the computer system, a plurality of candidate keyword meanings of the keyword by selecting a plurality of meanings from meanings matching the keyword in the computer-readable data collection;

determining, in the computer system, a strength of relationship between each candidate knowledge item meaning and each first information meaning of the first information, and
determining a respective selection probability for each candidate keyword meaning from the

strengths;

- selecting a first candidate keyword meaning from the plurality of candidate keyword meanings according to the respective selection probabilities of each candidate keyword meaning;
- matching the keyword to web page content associated with a web page;
- determining a semantic sub-space defined by a radius of semantic distance from the first candidate keyword meaning, identifying an advertisement having an advertisement meaning that falls within the semantic sub-space, and matching the keyword to the advertisement;
- associating, in the computer system, the advertisement with the web page content; and
- outputting the advertisement when the web page is displayed.

48. (New) The system of claim 47, wherein the first information comprises text of advertisements associated with advertisers who have bid on the keyword.

49. (New) The system of claim 48, wherein the first information further comprises destination web pages associated with the advertisements.

50. (New) The system of claim 48, wherein the first information further comprises other keywords bid on by the advertisers.

51. (New) The system of claim 47, wherein the first information comprises search results associated with the keyword.

52. (New) The method of claim 1, wherein determining one or more first information meanings further includes:

- determining a meaning for each document in the first information using the computer-readable data collection;
- receiving related data for the first information;
- calculating a weight for each document in the first information from the related data; and
- determining the one or more first information meanings by combining the determined meanings for each document in the first information, where the determined meaning for each document is weighted by the calculated weight for the document.

53. (New) The method of claim 1, further comprising:

- determining a semantic sub-space defined by a radius of semantic distance from the first candidate knowledge item meaning;
- identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and
- presenting the advertisement.

54. (New) The computer-readable medium of claim 14, further operable to cause processors to perform operations comprising:

- determining a meaning for each document in the first information using the computer-readable data collection;
- receiving related data for the first information;
- calculating a weight for each document in the first information from the related data; and
- determining the one or more first information meanings by combining the determined meanings for each document in the first information, where the determined meaning for each document is weighted by the calculated weight for the document.

55. (New) The computer-readable medium of claim 14, further operable to cause processors to perform operations comprising:

- determining a semantic sub-space defined by a radius of semantic distance from the first candidate knowledge item meaning;
- identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and
- presenting the advertisement.

56. (New) The system of claim 32, further programmed to perform operations comprising:

- determining a meaning for each document in the first information using the computer-readable data collection;
- receiving related data for the first information;
- calculating a weight for each document in the first information from the related data; and
- determining the one or more first information meanings by combining the determined

meanings for each document in the first information, where the determined meaning for each document is weighted by the calculated weight for the document.

57. (New) The system of claim 32, further programmed to perform operations comprising:
- determining a semantic sub-space defined by a radius of semantic distance from the first candidate knowledge item meaning;
 - identifying an advertisement having an advertisement meaning that falls within the semantic sub-space; and
 - presenting the advertisement.